

## Graphing Equations

■ **Concept:** Graphing equations in two variables

**Remember:** To graph an equation in two variables, find the values for the two variables that make the equation true. These values form an ordered pair that represents a point on the graph of the equation.

**Example:** Graph:  $x + 2y = 6$

Choose values for  $x$  and find the corresponding values for  $y$ .  
Make a table of values and corresponding ordered pairs.

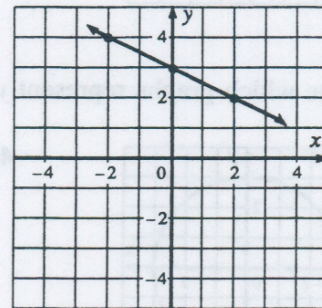
When  $x = -2$ ,  $-2 + 2y = 6$  or  $y = 4$

When  $x = 0$ ,  $0 + 2y = 6$  or  $y = 3$

When  $x = 2$ ,  $2 + 2y = 6$  or  $y = 2$

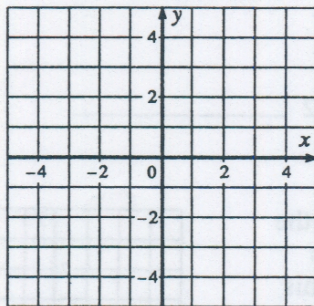
Plot the ordered pairs.

$x$	$y$	Ordered pairs
-2	4	$(-2, 4)$
0	3	$(0, 3)$
2	2	$(2, 2)$

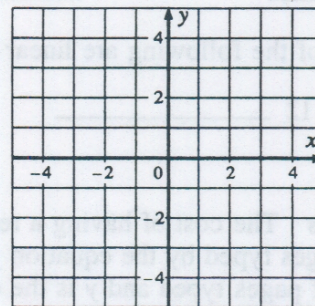


Graph each equation.

1.  $3x + y = 0$



2.  $x + 2y = 6$



■ **Concept:** Identifying equations as linear

**Remember:** Any first degree equation in two variables has a graph that is a straight line. Such equations are called linear equations.

**Example:** Determine whether the equation  $3x + 2y = 1$  is linear.

The standard form for a linear equation is  $Ax + By = C$ , where  $A$  and  $B$  are not both zero. Therefore,  $3x + 2y = 1$  is linear.

Determine which of the following are linear equations.

3.  $1 - 5x = x$  \_\_\_\_\_

4.  $y = 17 - 3x$  \_\_\_\_\_

5.  $y^2 = 9$  \_\_\_\_\_